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09/759,247	01/16/2001	Katsumi Marukawa	500.39507X00	1022

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EXAMINER	
VAUGHAN, MICHAEL R	
ART UNIT	**PAPER NUMBER**
2131	

DATE MAILED: 09/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/759,247	MARUKAWA, KATSUMI	
	Examiner	Art Unit	
	Michael R Vaughan	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 January 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8-26-02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-19 have been examined and are pending.

Information Disclosure Statement

An initialed and dated copy of Applicant's IDS form 1449, filed 8-26-02, is attached to the instant Office action.

Claim Rejections - 35 USC ' 101 Utility

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-19 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a credible asserted utility or a well established utility. [Note, because the claimed invention is not supported by a specific asserted utility for the reasons set forth above, credibility cannot be assessed.]

Examiner finds the independent claims not in conformance to credibly carry out the specified invention. Examiner thinks there may have been something left out with the English translation. The inventor has not defined secret key or private key

so the Examiner gives it the normal meaning in the art. Secret key is a key kept secret from all but a select few (usually two). Usually the sender and receiver know the secret key and it can be used to encrypt and decrypt messages. This is symmetry key cryptography. Private key on the other hand is asymmetrical cryptography in which the public key undoes the private key and vice versa. Public key are not kept secret but the private key is. When the private key is used to do the encrypting, it is called signing. There seems to be some confusion to the manner in which these types of keys, both present in the independent claims, are implemented. Starting in steps 2 and 3, there is some indefiniteness. Step 2 calls for applying a digital signature to an original image to produce a first signed data. Examiner interprets this as signing with a private key known to the sender. The next steps calls for ciphering with a private key of the receiver. This is contrary to known practices in the art. Only the receiver knows its private key. So this raises questions as to whether the inventor meant that a secret key, shared by the sender and receiver is used. Another possibility is that it's the public key of the receiver that is used. If it is the public key that is used, then in step 7, a private key (not secret) should be used to obtain the third signed data. The third signed data would be equal to the first signed data if no problems were encountered during transmission. Also step 9 should be examined to make sure the right term is used in reference to the type of key. Step 4 and 9 are related so there should be a proper relationship between the keys.

As the claims stand, the claimed invention would not operate as intended. The comparison made in step 10 would not indicate whether or not the data is valid. Therefore there is no utility in the claimed invention. Nonetheless, Examiner will attempt to apply art that reads on how the Examiner has interpreted this invention to work based on knowledge of the cryptographic principles.

Claims 1-19 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either an asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC ' 112, second paragraph

Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The literal translation into English of the "working" is indefinite. It is not known what exactly this is meant as it relates to digital images and the like. Clarification and/or correction are required.

Claims 5, 12, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The literal translation into English of the

"volume" is indefinite. It is not known what exactly this is meant as it relates to digital images and the like. Clarification and/or correction are required.

Claim Rejections - 35 USC ' 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneier (Applied Cryptography).

As per claims 1 and 8, Schneier teaches a data transmission step on said data transmission side; and a data reception step on said data reception side; said data transmission step including: a first step of working said original image so as to produce worked data (pg. 37); a second step of applying a digital signature to said original image

so as to produce first signed data (pg. 37); a third step of ciphering said first signed data with a private key of said data reception side so as to produce a ciphered signed data 9pg. 37); a fourth step of merging said worked data and said first signed data, applying a one-way function to obtained merged data (pg. 40), and ciphering an output of said one-way function with a secret key of said data transmission side so as to obtain second signed data (pg. 38); and a fifth step of transmitting said worked data (pg. 38), said second signed data (pg. 38) and said ciphered signed data to said data reception side (pg. 40). Schneier teaches each of this steps in several different digital signature protocols. It would have been obvious to one of ordinary skill at the time of the invention to combine the security features of each to make it more difficult for an eavesdropper to foil the algorithm. It would have also been obvious to one or ordinary skill in the art at the time of the invention to perform the undoing of this cryptographic steps at the receiver to prove validity of the transmitted data. Each step performed at the receiver is known in the art at the reciprocal step to each of the taught steps for the sender. The receiver (Bob) on page 38 performs the comparison to the received hash, as it is well known in the art.

As per claims 2 and 9, Schneier is silent is teaching the documents is scanned. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to first scan a document because scanning is a well known manner in which to digitize documents.

As per claims 3 and 10, Schneier teaches written information includes a string of characters (pg. 38).

As per claims 4 and 11, Schneier teaches first signed data in said second step includes signed data obtained by applying a digital signature to data relating to said original image (pg. 40).

As per claims 7 and 14 Schneier teaches reception side further sends said third signed data obtained in said seventh step to said data transmission side when a comparison result in said tenth step exhibits disagreement between outputs of said eighth and ninth steps; and said data transmission side searches for an original image corresponding to signed data coinciding with said third signed data sent to the data transmission side (pg. 42).

As per claim 15, Schneier teaches the steps performed by the transmission apparatus of claim 15 in the method of claim 1. Therefore Schneier anticipates the apparatus itself.

As per claim 19, Schneier teaches is silent is teaching the documents is scanned. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to first scan a document because scanning is a well known manner in which to digitize documents.

Claims 5, 6, 12, 13, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneier in view of Barton (USP 5,912,972).

As per claims 5 and 12 and 17, Schneier is silent in disclosing using the volume of data. Barton teaches using the volume of data (col. 2, lines 64-67). In view of this it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the teachings of Barton within the system Schneier because the volume of data would be enough to represent the entire document without having to use of the bits.

As per claims 6, 13, and 18, Schneier is silent in disclosing using the black pixels as the identifying data. Barton teaches using the pixel characteristics of the digitized documents as identifying data. The number of black pixel would be one of these characteristics. In view of this it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the teachings of Barton within the system of Schneier because it would identify the original document.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R Vaughan whose telephone number is 703-305-0354. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 703-305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MV
Michael R Vaughan

Examiner

Art Unit 2131

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